Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread D	**AFE**	124300132	**Spread**	H-600 Pipeline Spread D
Contractor	Precision			**Report #**	320
Environmental Auditor	Gary Cruz			**Date/Time**	10/26/2023 2:55 PM

Stream ID	S-J22	**Crossing Start Date**	10/23/2023	**Crossing Completion Date**	11/1/2023
Milepost	122.48	**Pre-Con Assessment Date**	10/23/2023	**Post-Con Assessment Date**	11/1/2023
Station	6466+86	**Bankfull Width (ft.)**	3.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Intermittent		
County	Nicholas	**303(d) Impairment Listing**	No		

	Resource Post-Crossing Conditions	
1	Were all applicable resource specific crossing conditions satisfied?	See Below
	Time of Year Restrictions (TOYR)? Yes Mussel Relocation? N/A	
2	This question is not applicable in WV.	
3	Which crossing methods were utilized during the stream crossing? (If so select one or more) Dam & Pump X Flume X Cofferdam Conventional Bore Horizontal Directional Drill (HDD) Bore	
4	Was the top 1-foot (12-inches) of streambed substrate segregated and stockpiled separate from trench spoils?	Yes
5	Was excess material not needed for backfill removed and disposed of in an upland area?	Yes
6	Was the top 12-inches of backfill made with clean native stream substrate?	Yes
7	Was the pre-construction survey data utilized during restoration in attempt to re-establish pre-construction contours?	Yes
8	Were any field modifications to the stream implemented by project or regulatory personnel to address potential drainage or bank restoration limitations?	No
9	Were impervious trench breakers/plugs properly installed within 25-feet of top-of-bank to prevent subsurface erosion to or from the resource area?	See Below
10	Was permanent seed and stabilization material (straw or matting) applied to riparian areas and stream banks prior to re-establishing flow to the impact area of the channel?	Yes
11	Was the time of disturbance minimized by conducting resource work continuously to completion?	Yes
12	Have civil surveys been scheduled to verify as-built conditions meet pre-construction conditions in accordance with the project Mitigation Framework and federal/state permit requirements?	Yes
13	Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 - 4/30)?	N/A
14	Did any unauthorized discharges to unpermitted resources occur during the crossing? If so, explain the corrective actions implemented in the Comments section and include additional photos.	No

	Biological Conditions	Pre-Con	Post-Con
15	**Predominant Substrate Type (select one):** Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay	Cobble (2-10")	Cobble (2-10")
16	**Channel Conditions:Rating:** 1-Optimal (80-100% stable banks), 2-Sub-optimal (60-80% stable banks), 3-Marginal (40-60% stable banks), 4-Poor (20-40% stable banks), 5-Severe (0-20% stable banks, highly eroded or unvegetated banks	1	2
17	**Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank: Rating:** 1-Optimal (60-100% heavy vegetative cover), 2-Sub-optimal (30-60% mixed vegetated coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetated coverage, etc.)	1	4

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	Biological Conditions Continued	Pre-Con	Post-Con
18	**Instream Habitat Conditions:** Examples: Varied substrate sizes, varied combination of water velocities & depths, presence of woody/leafy debris, stable substrate with low amount of mobile particles, low embeddedness, shade protection, undercut banks, root mats, Varied combination of water velocities, submerged aquatic vegetation Rating: 1-Optimal (Habitat conditions present in >50% of resource), 2-Suboptimal (Habitat conditions in 30-50% of resource), 3-Marginal (Habitat conditions in 10-30% of resource), 4-Poor (Habitat conditions in 0-10% of resource)	1	3
19	**Channel Alterations:** Examples: Straightened channel, non-MVP stream crossings, non-native riprap/rock along banks, concrete/gabions/concrete block, manmade embankments, constrictions w/in channel, livestock or agricultural impacts Rating: 1-Negligible (unaltered/natural stream), 2-Minor (20-40% of resource disrupted by channel alterations), 3-Moderate (40-80% of resource disrupted), 4-Severe (>80% of resource disrupted)	1	2

Additional Notes

Expanded notes for question 1: Stream S-J22 has a time of year restriction (TOYR) prohibiting construction between Sept. 15th to March 31st. A waiver has been obtained from the appropriate agencies to allow construction within this window.

Expanded notes for question 9: Impervious trench breakers for S-J22 were placed 41-feet from top of bank on the going away side (GAS) and 33-feet from top of bank on the coming in-side (CIS) due to wetland W-J7 surrounding the stream.

10/23/2023 - A pump and dam conveyance system was established prior to the removal of surface rocks, which were stockpiled separately. The top 12” of substrate between the high water marks was segregated and stockpiled on geotextile fabric. Blasting operations started on the ditch line. At the end of the day, a flume pipe was installed for potential overnight conveyance of the stream. The flume and pump/dam conveyance systems were used throughout the crossing on an as needed basis. At the start of the crossing, stream S-J22 did not have any flow.

10/24/2023 - No construction activities were conducted within the stream feature. The contractor excavated the ditch line in the upland area on the GAS of S-J22.

10/25/2023 - The day was spent excavating the ditch line through stream S-J22 and wetland W-J7.

10/26/2023 – Excavation through the features was completed by the end of the day.

10/27/2023 – The section of pipe for S-J22 and W-J7 was lowered-in and tied-in on the GAS loose end. To make the pipe sit in the trench properly, more of the pipe was excavated in the upland area on the GAS of the features.

10/28/2023 - A cut out and reengineering of the pipe on the CIS of S-J22 was required to ensure proper coverage when restoring the stream. Fitting and welding operations commenced and continued throughout the rest of the day.

10/29/2023 – Welding operations were completed on the CIS of the crossing and x-ray and coating operations began.

10/30/2023 - No construction activities were conducted due to a rain out.

10/31/2023 – After x-ray and coating operations were completed, the stream and wetland sections of the trench were backfilled to within 12” from top of grade using subsoil. The trench in the upland areas on the CIS and GAS were padded and backfilled. The impervious trench breakers were installed just outside of wetland W-J7on the CIS and GAS at station number 6466+43 and 6467+21 respectively.

11/1/2023 - The stream substrate was replaced and the compiled bedrock was installed back to their original positions within the streambed. Survey verified that all elevations and contours met pre-construction specifications. Erosion control devices were installed on the boundaries of the stream, due to W-J7 abutting the CIS and GAS of the stream crossing. The proper seed mix was applied to the disturbed areas of the stream and the dam was removed to allow potential flow.

In accordance with the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework, this independent report was completed to document the on-site monitoring of instream invertebrate and fisheries resources during all construction activity related to waterbody and wetland crossings, and document instream conditions and any impacts to the resources.

Name	Signature	Company	Date
Gary Cruz		SWCA	11/1/2023

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Required Photos

GPS Location	See photo above
Description	Downstream view of permitted impact area during pre-construction assessment.

GPS Location	See photo above
Description	Downstream view of unimpacted area during pre-construction assessment.

GPS Location	See photo above
Description	Downstream view of permitted impact area during post-construction assessment.

GPS Location	See photo above
Description	Downstream view of unimpacted area during post-construction assessment.

GPS Location	See photo above
Description	Downstream view of permitted impact area during pre-construction assessment.

GPS Location	See photo above
Description	Top 12" of substrate being excavated.

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Optional Photos

GPS Location	See photo above
Description	Contractor drilling holes within the stream for blasting.

GPS Location	See photo above
Description	The operator excavating trench through stream S-J22.

GPS Location	See photo above
Description	The contractor lowering-in section of pipe for stream feature.

GPS Location	See photo above
Description	Subsoil has been backfilled below the 12" mark of elevation.

GPS Location	See photo above
Description	Impervious trench breakers have been installed.

GPS Location	See photo above
Description	The top 12” of substrate being verified by survey to meet pre-construction specifications.